IN THE CLAIMS:

Although not amended herein, the claims are presented for the convenience of the Examiner.

1. (Previously Presented) A compatible optical pickup which can be compatibly used for first through third recording media having different recording densities and formats, comprising:

a first light source which emits a first light beam having a first wavelength suitable for the first recording medium;

a twin light source which emits second and third light beams respectively having second and third wavelengths suitable for the corresponding second and third recording media;

a plate-type beam splitter which transmits and reflects the second and third light beams in a predetermined ratio;

a first objective lens which condenses the first light beam to form a light spot for recording and/or reproduction of the first recording medium;

a second objective lens which condenses the second and third light beams to form light spots for recording and/or reproduction of the received one of the second and third recording media;

an actuator which drives the first and second objective lenses;

a first photo-detector which receives the first light beam reflected from the first recording medium to detect an information signal and/or an error signal; and

a second photo-detector which receives the second and third light beams reflected from the received one of the second and third recording media to detect information signals and/or error signals,

wherein the first objective lens forms a first numerical aperture for use with the first recording medium and a second numerical aperture other than the first numerical aperture for use with the second recording medium,

the second objective lens forms a third numerical aperture which is other than the first and second numerical apertures for use with the third recording medium,

WD1 is a working distance of one of the first and second objective lenses which has a short working distance,

WD2 is a working distance of the other one of the first and second objective lenses which has a long working distance,

the first and second objective lenses are installed to satisfy the below relationship so as to prevent the one objective lens having the short working distance from contacting the received

one of the first through third recording media during loading of the received recording medium and while allowing operation of the other one of the first and second objective lenses having the long working distance:

WD2 ≥ WD1,

a basic separating distance of the one objective lens relative to the corresponding one of the first through third recording media is WD1 + α, and $\alpha = |WD2 - WD1| \times (0.1 \sim 1.0)$, and

at least one of the first and second objective lenses is formed so that a wavefront aberration occurring mainly due to a tilt of the objective lens and a wavefront aberration occurring mainly due to a tilt of light incident on the objective lens become a same type of aberration.

2. (Original) The compatible optical pickup of claim 1, wherein the actuator comprises:

a single lens holder to hold the first and second objective lenses; and

a magnetic circuit which drives the single lens holder in a direction.

3. (Original) The compatible optical pickup of claim 2, wherein the single lens holder holds the first and second objective lenses at different heights above a common surface.

4. (Cancelled)

5. (Cancelled)

6. (Previously Presented) The compatible optical pickup of claim [[4]]3, wherein one of the first through third recording media is a CD-family optical disc, another is a DVD-family optical disc, and the other is a next generation DVD-family optical disc which has a higher density than DVD.

7. (Cancelled)

8. (Cancelled)

9. (Previously Presented) The compatible optical pickup of claim [[7]]1, wherein one of the first through third recording media is a CD-family optical disc, another is a DVD-family

optical disc, and the other is a next generation DVD-family optical disc which has a higher density than the DVD.

10. (Original) The compatible optical pickup of claim 1, wherein the second photo-detector comprises first and second main photo-detectors which receive the second and third light beams, respectively.

11. (Original) The compatible optical pickup of claim 10 further comprising:

a grating which diffracts the second and/or third light beams emitted from the twin light source into at least three beams,

wherein the second photo-detector further comprises a plurality of sub photo-detectors which receive sub beams split by the grating.

12. (Cancelled)

13. (Previously Presented) The compatible optical pickup of claim [[12]]1, wherein at least one of the first and second objective lenses is formed so that a wavefront aberration occurring mainly due to a tilt of the objective lens and a wavefront aberration occurring mainly due to a tilt of light incident on the objective lens become a coma aberration.

14. (Previously Presented) The compatible optical pickup of claim [[1]]2, wherein one of the first through third recording media is a CD-family optical disc, another is a DVD-family optical disc, and the other is a next generation DVD-family optical disc which has a higher density than the DVD.

15. (Previously Presented) The compatible optical pickup of claim [[14]]9, wherein the next generation DVD-family optical disc has a thickness of about 0.1mm, is recorded and/or reproduced using a blue violet beam, and the one of the first and second objective lenses used for the next generation DVD-family optical disc has a numerical aperture of at or more than 0.85.

16. (Original) A recording and/or reproducing apparatus for use with first through third optical media having corresponding thicknesses comprising:

the compatible optical pickup of claim 1 which is compatible for recording and/or reproducing with respect to each of the first through third optical media; and

a controller to control the compatible optical pickup to record and/or reproduce data with respect to a received one of the first through third optical media.

17. (Previously Presented) A compatible optical system for use with recording and/or reproducing data with respect to a first optical medium having a first thickness, a second optical medium having a second thickness, and a third optical medium having a third thickness, the system comprising:

a first optical unit which emits a first light beam for use with the first optical medium and detects the first light beam reflected from the first optical medium, and emits a second light beam other than the first light beam for use with the second optical medium and detects the second light beam reflected from the second optical medium;

a first objective lens disposed in an optical pathway between the first optical unit and the received one of the first and second optical media and having an optical property which forms a light spot suitable for recording and/or reproducing data with respect to each of the first and second optical media;

a plate-type beam splitter which transmits and reflects the first and second light beams in a predetermined ratio;

a second optical unit which emits a third light beam other than the first and second light beams for use with recording and/or reproducing data with respect to the third optical medium and which detects the third light beam reflected from the third optical medium; and

a second objective lens disposed in an optical pathway between the second optical unit and which forms a light spot using the third light beam suitable for recording and/or reproducing data with respect to the third optical medium,

wherein the first through third light beams having corresponding different wavelengths corresponding to the first through third thicknesses,

the first objective lens forms a first numerical aperture for use with the first optical medium and a second numerical aperture other than the first numerical aperture for use with the second optical medium,

the second objective lens forms a third numerical aperture which is other than the first and second numerical apertures for use with the third optical medium

WD1 is a working distance of one of the first and second objective lenses which has a short working distance,

WD2 is a working distance of the other one of the first and second objective lenses which has a long working distance,

the first and second objective lenses are installed to satisfy the below relationship so as to prevent the one objective lens having the short working distance from contacting the received one of the first through third recording media during loading of the received recording medium and while allowing operation of the other one of the first and second objective lenses having the long working distance:

$WD2 \geq WD1$,

a basic separating distance of the one objective lens relative to the corresponding one of the first through third recording media is WD1 + α, and $\alpha = |WD2 - WD1| \times (0.1 \sim 1.0)$, and

at least one of the first and second objective lenses is formed so that a wavefront aberration occurring mainly due to a tilt of the objective lens and a wavefront aberration occurring mainly due to a tilt of light incident on the objective lens become a same type of aberration.

18. (Cancelled)

19. (Original) The compatible optical system of claim 17, wherein the third numerical aperture is not usable with the first and second optical media.

20. (Original) The compatible optical system of claim 19, wherein the third numerical aperture is greater than 0.6, and the first and second numerical apertures are at or less than 0.6.

21. (Original) The compatible optical system of claim 17, further comprising a common actuator system that moves the first and second objective lenses simultaneously.

22. (Cancelled)

23. (Previously Presented) The compatible optical system of claim 17, wherein:

the second working distance is greater than the first working distance by a working distance difference, and

the first objective lens is disposed at a basic separating distance relative to an upper surface of the received one of the first and second optical media that is at or between 10% and 100% of the working distance difference greater than the first working distance.

24. (Original) The compatible optical system of claim 17, wherein the optical property

of the first objective lens comprises a holographic pattern which has a first numerical aperture with respect to the first light beam having a first wavelength for use in recording and/or reproducing data with respect to the first optical medium, and a second numerical aperture with respect to the second light bean having a second wavelength other than the first wavelength for use in recording and/or reproducing data with respect to the second optical medium.

25. (Original) The compatible optical system of claim 17, wherein:

the optical property of the first objective lens is optimized for recording and/or reproducing with respect to the first optical recording medium and is usable for recording and/or reproducing with respect to the second optical medium, and

the second objective lens is optimized for use with the third recording medium.

26. (Original) The compatible optical system of claim 25, wherein the first recording medium is a Digital Versatile Disc (DVD), the second recording medium is a Compact Disc (CD), and the third recording medium has a thickness which is less than a thickness of the DVD.

27. (Original) The compatible optical system of claim 26, wherein the third light beam has a wavelength that is less than a wavelength of the first light beam.

28. (Original) The compatible optical system of claim 27, wherein the wavelength of the third light beam is substantially 405 nm.

29. (Original) The compatible optical system of claim 25, wherein:

the first recording medium is a Digital Versatile Disc (DVD),

the second recording medium is a Compact Disc (CD),

the first objective lens has a first numerical aperture using the first light beam for use with recording and/or reproducing with respect to the DVD and has a second numerical aperture for use with recording and/or reproducing with respect to the CD, and

the second objective lens has a third numerical aperture which is at or substantially equal to 0.85 using the third light beam for use with recording and/or reproducing with respect to the third recording medium.

30. (Original) The compatible optical system of claim 17, wherein one of the first and second objective lenses has an optical property which converts into a common aberration

wavefront aberrations due to a tilt of the one objective lens and due to an angle an optical axis of the one objective lens and an optical pathway of an incident one of the first through third light beams on the one objective lens.

31. (Original) The compatible optical system of claim 30, wherein the optical system compensates for the common aberration by moving a light emitting portion of the corresponding one of the first and second optical units within a plane perpendicular to the corresponding optical pathway.

32. (Original) A recording and/or reproducing apparatus for use with first through third optical media having corresponding thicknesses comprising:

the compatible optical pickup of claim 17 which is compatible for recording and/or reproducing with respect to each of the first through third optical media; and

a controller to control the compatible optical pickup to record and/or reproduce data with respect to a received one of the first through third optical media.

33. (Previously Presented) A compatible optical system for use with recording and/or reproducing data with respect to a first optical medium having a first thickness and a second optical medium having a second thickness, the system comprising:

a first optical unit which emits a first light beam for use with the first optical medium and detects the first light beam reflected from the first optical medium;

a first objective lens disposed in an optical pathway between the first optical unit and the received one of the first and second optical media and having an optical property which forms a light spot suitable for recording and/or reproducing data with respect to the first second optical medium;

a second optical unit which emits a second light beam other than the first light beam for use with recording and/or reproducing data with respect to the second optical medium and which detects the second light beam reflected from the second optical medium;

a second objective lens disposed in an optical pathway between the second optical unit and the received one of the first and second optical media and which forms a light spot using the second light beam suitable for recording and/or reproducing data with respect to the second optical medium; and

a holding unit which disposes the first objective lens at a first working distance relative to the first optical medium, and disposes the second objective lens at a basic operating distance

relative to the second optical medium which is greater than a second working distance through which the second objective lens is moved during recording and/or reproducing of the second optical medium so as to prevent the second objective lens from impacting the first optical medium during recording and/or reproduction of the first optical medium,

wherein the first working distance is greater than the second working distance,

a triaxial actuator which moves a moving unit in the first and second objective lenses in any of an optical axis direction, a radial direction and a tilting direction

WD1 is the first working distance of the first objective lens which has a short working distance,

WD2 is the second working distance of the second objective lens which has a long working distance,

the first and second objective lenses are installed to satisfy the below relationship so as to prevent the first objective lens from contacting the received one of the first through third recording media during loading of the received recording medium and while allowing operation of the second objective lens:

WD2 ≥ WD1,

a basic separating distance of the one objective lens relative to the corresponding one of the first through third recording media is WD1 + α, and $\alpha = |WD2 - WD1| \times (0.1 \sim 1.0)$, and

at least one of the first and second objective lenses is formed so that a wavefront aberration occurring mainly due to a tilt of the objective lens and a wavefront aberration occurring mainly due to a tilt of light incident on the objective lens become a same type of aberration.

34. (Original) The compatible optical system of claim 33, wherein the basic separating distance is relative to an upper surface of the received one of the first and second optical media that is at greater than the second working distance by at or between 10% and 100% of a difference between the first and second working distances.

35. (Previously Presented) The compatible optical system of claim 33, wherein the triaxial actuator comprises a first actuator to drive the first objective lens and a second actuator to drive the second objective lens.

36. (Previously Presented) The compatible optical system of claim 33, wherein the holding unit is formed so as to install the first and second objective lenses in the radial direction

of the optical disc.

37. (Previously Presented) The compatible optical system of claim 17 further comprising:

a grating which diffracts the first and/or second light beams emitted from the first optical unit into at least three beams; and

first and second photo-detectors for detecting the first and second light beams, respectively, the photo-detectors comprising a plurality of sub photo-detectors which receive sub beams split by the grating.

38. (Previously Presented) The compatible optical pickup of claim 11, further comprising a sensing lens disposed between the plate-type beam splitter and the photo-detector 17 and focuses the first light beam 11a onto the photo-detector 17.